An Implementation Strategy for the FRASER RIVER ESTUARY MANAGEMENT PROGRAM

Environment Canada

BC Ministry of Environment

AN IMPLEMENTATION STRATEGY
FOR THE
FRASER RIVER ESTUARY MANAGEMENT PROGRAM

Prepared By
Fraser River Estuary Management Program
Review Committee

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EXECUTIVE SUMMARY

The implementation strategy for managing the Fraser River estuary is a continuation of the work undertaken during the Fraser River Estuary Study. It represents a refinement of the management program which was proposed at the conclusion of Phase II of the Estuary Study. Based on suggestions received during an agency and public review, and in recognition of the general policy of restraint in the public sector, the management program has been revised to provide a simple, structured opportunity for ongoing cooperation in improving management of the Fraser estuary.

The implementation strategy is composed of three inter-related components. The first is a series of goals and policies intended to direct agency planning and decision-making and to guide Management Program activities. The goals and policies recognize the importance of the estuary's economic, environmental and recreational resources. Consistent with this recognition, they provide guidance regarding the key issues relating to port-industrial development and transportation, water quality, habitat management and recreation.

The second component is the establishment of a Management Committee which will serve as a forum for joint consideration of issues affecting the management of the Fraser estuary. Composed of those agencies, municipalities, Indian Bands and regional districts with a prominent role in estuary decision-making, the Committee is intended to provide an organizational and coordinative mechanism to ensure that the goals and policies for estuary management are achieved. The current mandate and responsibilities of each agency will remain intact and will serve as the basis for implementing Management Program activities. Where conflicts arise in the full achievement of these mandates, the Management Committee will provide a forum for resolution.

It is recommended that a five member Executive be established to coordinate the activities of the Management Committee. The functions of the

Executive will include developing terms-of-reference for specific management activities in consultation with the involved parties, coordinating the implementation of these activities and evaluating performance.

The Management Program is designed to provide a number of opportunities for public consultation and to assist the public by increasing the availability of useful information on the estuary. The current means of directly contacting estuary managers will be supplemented by access to the Management Committee. In addition, during the preparation of activity programs and area plans, the public will be encouraged to submit information, review and comment on draft products, and participate on those work groups where they have a specific contribution to make.

The third component of the strategy is the implementation of a number of coordinated activities to improve resource management. These activities include:

- a coordinated project review process to develop more efficient means of reviewing proposed projects,
- an information system to provide up-to-date information on all aspects of resource management to participating agencies and the public,
- a water quality plan designed to establish ambient water quality objectives throughout the estuary and coordinate water quality monitoring and enforcement,
- specific activity programs to address estuary-wide activities such as waste management, log handling, port development, recreation, habitat management, navigation and dredging, dyking and drainage and emergency management. These programs will be undertaken by work groups comprised of responsible organizations and coordinated by the Management Committee,
- area plans that outline specific uses or combinations of uses for land and water in defined areas, and
- coordination of upland and estuary planning activities.

It is recommended that the management activities proposed in the Fraser Estuary Implementation Strategy be phased-in on a priority basis. The details of the timing of this overall program will depend upon the resources available to individual agencies represented on the Management Committee and the joint priorities approved by its Executive.

The Review Committee proposes the following sequence for implementation:

(i) The proposed Management Committee Executive be established immediately to coordinate on-going activities that are compatible with the proposed implementation strategy, namely,

- establishment of the coordinated project review process with a Central Project Registry, documentation of environmental guidelines for classes of project developments, and immediate field testing of this process.

- establishment of a coordinated water quality monitoring program for the Estuary and the preparation of a water quality plan to guide present and future waste management decisions.

- coordination of current initiatives with the activity programs outlined in Appendix 2 of this report to ensure that these comply with the goals, objectives and policies established for the Fraser River Estuary Management Program.

(ii) In the longer term a Federal-Provincial Agreement be approved by the Federal and Provincial Ministers of Environment to establish the administrative arrangements for implementing all other components of the proposed implementation strategy, namely

- establishment of the full Management Committee with formalized reporting responsibilities to the Federal and Provincial Ministers of Environment.

- establishment of an administrative secretariat for the Management Committee to assist in implementing the coordinated project review process, the Central Project Registry, the management information system and to act as an information contact for the general public. This secretariat can be staffed by secondments from key agencies or funded from approved budgets.

- establishment of work-sharing arrangements between participating agencies to implement fully the management activities outlined in Appendix 2. The current allocation of resources in existing agencies is not sufficient to undertake the detailed level of analysis required to achieve significant improvements in estuary management. Additional resources could be provided through the reallocation of priorities within agencies, agreements on work-sharing between agencies and the acquisition of special expertise.

As time is of the essence, the Review Committee recommends that a Federal-Provincial Agreement be approved by the Federal and Provincial Ministers of Environment within six months of the public release of this report.

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1.0 INTRODUCTION

The Fraser River estuary lies on the doorstep of the 1.5 million people living in the Greater Vancouver area. Use of the estuary for port activity and transportation, industry and commerce, recreation, agriculture and residential development contributes billions of dollars annually to the economy. In addition, the commercial fishery that depends on the Fraser River and its estuary is one of the largest in North America and is worth around $100 million annually. The wetlands of the estuary also support millions of waterfowl migrating along the Pacific Flyway, and together with the fishery provide a major recreational resource for the people of British Columbia. With an internationally significant ecosystem in the middle of Western Canada's largest urban centre and at the gateway to Pacific trade, an enormous responsibility exists for managing the diverse resources of the Fraser River estuary in a way that ensures that all of the benefits it provides to British Columbians and Canadians today will still be enjoyed tomorrow.

The Fraser River Estuary Study was a joint federal-provincial endeavour initiated in 1977 under agreement between Environment Canada and the British Columbia Ministry of Environment. Its purpose was to develop a management program that will provide a means for accommodating a growing population and economy while maintaining the quality and productivity of the Fraser estuary's natural environment. The Study was a broadly based activity involving federal, provincial, regional and municipal agencies, industry and public interests.

The Study was organized in two phases. Phase I produced an inventory of existing conditions and trends in the estuary and outlined a series of management proposals and strategies. Phase II prepared a management program for recommendation to the federal and provincial Ministers of Environment. The main Phase II report, "A Living River By The Door", which describes a proposed management program for the Fraser River estuary, and supplementary technical reports have been widely distributed to the public and all levels of government. Following release of the reports, a Review Committee was established to obtain public and government comment on the proposed management

program and to prepare an implementation strategy.

Comments on the proposed management program were received from the 8 federal agencies, 10 provincial agencies, 3 regional districts, and 12 municipalities listed in Appendix 1. In addition, 70 questionnaires from an open house held June 23, 1982 and 20 written submissions from user groups and the public were analysed and applied in the preparation of this report. Although there was general endorsement of the need for a management program, there were a number of issues which required clarification. These included the need for: broad consultation; government and industry commitment to the management process; a simplified management structure; clarification of the role of municipal and regional governments; and practical and cost-effective management activities. In addition, a strong desire for meaningful action to occur as soon as possible was expressed. In response to these concerns, the Management Program proposed in "A Living River By The Door" was re-examined. The resulting revised program is presented in sections 2-4.

It is clear that management of the Fraser estuary to meet the objectives of the revised Management Program will require an increased effort by government agencies and industry in terms of resources. Recognition of this need has been combined with an appreciation of the current realities of government restraint to produce a simple yet organized program for increasing coordination among agencies and users. The central thesis of the implementation strategy is that an overall estuary management program will improve decision-making by: 1) permitting decisions to be made within an estuary-wide context rather than only on a site-specific basis; and 2) providing all agencies an opportunity to participate in key management decisions.

One of the primary objectives of the implementation strategy is to build upon the work completed in, or started as a result of Phases I and II of the Fraser River Estuary Study. Recognition and understanding of the Fraser estuary as an integrated biophysical and economic resource and of the means

available to improve the management of this resource have increased significantly as a result of the efforts of the numerous participating organizations. In addition, the previous phases resulted in increased opportunities to exchange ideas and an enhanced awareness of other organizations' perspectives. The objective of the implementation strategy is to capitalize upon these achievements by providing a structured opportunity for continued cooperation in achieving the common goal of improving management of the Fraser estuary.

The implementation strategy is composed of three components. The first is a series of policies and goals intended to guide planning and decision-making. Adherence to the policies and goals will result in a more consistent approach to estuary management by all agencies. However, to ensure their effectiveness, the goals and policies must receive political commitment as well as agency support.

The second implementation component is a Management Committee composed of all major decision-making agencies in the estuary. Because of conflicts in their achievement, consistent application of the Management Program's goals and policies requires a forum for the discussion and resolution of issues involving a number of agencies. The Management Committee responds to this need by providing an opportunity for the discussion of issues of mutual interest and the implementation of coordinated responses. As the Management Program must be responsive to changing priorities, issues and concerns, the Committee is also responsible for reformulating or updating the Program in response to the achievement of objectives or changes in policies.

The third is the implementation of a series of specific activities designed to improve current approaches to estuary management. These include a coordinated project review system, a management and public information system, a water quality plan, activity programs, and area plans. These activities will contribute to the achievement of the Management Program's goals by providing an opportunity to focus and coordinate the numerous agency initiatives which are already contributing to improving management decisions in the estuary.

During Phase II of the Fraser River Estuary Study the concept of linked management was proposed as a means of encouraging cooperation between management agencies. This concept has been incorporated in the implementation strategy in a less formal sense. Rather than trying to establish linked management through legislative means, the implementation strategy proposes a cooperative system whereby all affected parties have an opportunity to influence decisions within the existing framework of management responsibilities.

As with the Fraser River Estuary Study, the implementation strategy is focussed on the land and water outside the dykes within the study area. This focus does not allow the Management Program directly to influence planning on the upland side of the dyke. Consequently, a key objective of the implementation strategy is to strengthen the working relationship between those organizations responsible for managing use of the estuary and those responsible for management of upland uses.

Successful implementation will require formal arrangements between the two senior levels of government to establish and initiate the Management Program, the on-going commitment of staff and budgets by each participating organization, and cooperation in sharing the work needed to carry out specific activities under the program. It is recommended therefore that a Federal/Provincial Agreement be implemented to support the Management Program and to establish the administrative arrangements for program implementation. These arrangements include the establishment of a Fraser Estuary Management Committee, an administrative secretariat to support the Management Committee, and management and public information systems. Through their participation on the Management Committee, participating agencies of the Federal, Provincial and local levels of government would commit sufficient resources to perform their respective responsibilities as laid out in the implementation strategy proposed in the following sections of this report.

2.0 GOALS AND POLICIES

The following goals[1] and policies[2] are intended to provide general direction to planning and decision-making in the Fraser River estuary and to guide the development of activity programs, area plans, and other management activities. They are based on the Goals and Objectives presented in the Phase II report. The goals and policies recognize the estuary as an economic, resource producing, and recreational entity. They provide guidance for management of port-industrial development and transportation, water quality, habitat management and recreation. As there may be a need to redefine the goals and policies in response to changing priorities, issues, and conditions, they will be reviewed on an annual basis as part of an overall evaluation of the performance of the Management Program.

2.1 SUPERORDINATE GOAL OF THE MANAGEMENT PROGRAM

To provide the means for accommodating a growing population and economy, while maintaining the quality and productivity of the Fraser estuary's natural environment.

2.2 MANAGEMENT PRINCIPLES

Those management principles broadly applicable to all aspects of estuary management are listed below.

1. Recognize the importance of the Fraser River estuary as a major economic and environmental resource in all planning and management activities.

2. Emphasize simplicity and practicality during implementation of the Management Program through the cost-effective and shared deployment of existing resources.

3. Implement the Management Program in phases to allow for adjustments as required through experience and program evaluation.

[1] A GOAL is an end or ideal to be continually and progressively pursued over an unspecified period of time.

[2] A POLICY is a broad, means-oriented statement of intent establishing the framework within which decisions will be made.

4. Develop trust and consensus by ensuring broad consultation between all participating agencies, providing avenues for public consultation, and maintaining program flexibility.

5. Encourage compatibility between upland and foreshore uses.

It should be noted that the following goals and policies are not listed according to priority.

2.3 PORT-INDUSTRIAL DEVELOPMENT AND TRANSPORTATION

Goal

To provide viable economic opportunities for development in the estuary.

Policies

1. Develop port facilities in a manner consistent with long term plans that consider social, economic and environmental needs.

2. Take port development opportunities and trends elsewhere in British Columbia into consideration when planning for expanded port development in the Fraser estuary.

3. Give priority to industrial and commercial developments requiring water access in designated port/industrial areas.

4 Reduce risks associated with natural hazards when planning for or developing upland and foreshore activities.

5. Protect navigable channels from encroachment by activities which may impede navigation.

6. Permit new land-based transportation and utility corridors on the waterside of existing dyke systems only where it can be shown that there are no cost-effective upland alternatives.

2.4 WATER QUALITY

Goal

To maintain ambient water quality levels in the Fraser River, outer estuary, and Boundary and Semiahmoo Bays that will ensure the preservation of fisheries and wildlife, and where suitable provide for water contact recreation.

Policies

1. Further deterioration of the water quality in the Fraser River estuary must not be allowed.

2. Ambient water quality objectives in conjunction with monitoring and water use information will be used to assess Fraser estuary water quality and as a guide to granting waste discharge permits and assessing their efficacy.

3. Reduce overall, and in particular cases eliminate the loading of persistent or cumulative toxic chemicals.

4. Ensure that decisions related to improving water quality take economic considerations into account.

2.5 HABITAT MANAGEMENT

Goal

To maintain and where feasible increase the productivity of fish and wildlife habitat.

Policies

1. Conserve and enhance Crown-owned wetlands.

2. Mitigate environmental impacts or compensate for unavoidable habitat losses, taking into account economic considerations.

3. Incorporate experimental management activities into habitat compensation programs and mitigative practices in order to improve the capability to avoid or reduce environmental losses.

4. Emphasize those activities designed to increase the understanding of the relationship between habitat protection/enhancement and fish and wildlife productivity.

2.6 RECREATION

Goal

To enhance the quality and variety of estuary sites with identified recreational attributes.

Policies

1. Ensure that public access decisions account for protection of recreational and habitat values, and are compatible with adjacent land and water uses.

2. Protect areas of high recreational suitability to avoid conflicts with alternative uses.

3. Include recreational use in the design of waterfront development where feasible.

3.0 MANAGEMENT SYSTEM

This management system proposal is based on the principles of simplicity and direct involvement in issue identification and resolution by those agencies with estuary management responsibilities. The intent is to provide an effective forum for discussing and resolving management issues involving a number of agencies. Many decisions are currently made without adequately consulting agencies who can influence the outcome of an issue or may be directly affected by the decision.

Coordinating the large number of agencies involved in the management of the Fraser estuary poses a organizational dilemma: inclusion of all interests in all decisions would be extremely inefficient in terms of time and resources; alternatively, failure to consult all affected parties would lead to the alienation of deserving interests and poor management decisions. To resolve this situation, a widely based representational forum coordinated by an executive responsible for organization and administration is proposed.

The adopted approach is in large measure a response to concerns raised during the review of the Phase II organizational concept. Many respondents stated that the proposed management system was too complex and appeared to duplicate many existing estuary management activities. Related to this concern was a warning that the management system proposed an organzational concept that could not currently be supported because of limited available resources. The revised management system proposal responds to these concerns by recommending a simple yet organized program for increasing coordination primarily through the use of existing resources. The organizational structure of the proposed management system is presented in figure 1.

It is recommended that a Management Committee comprised of the agencies listed in figure 2 be established as a forum for joint consideration of issues affecting the management of the Fraser estuary. The primary objective of the Committee will be to ensure consultation when decisions are made by an agency or groups of agencies. The Management Committee will provide a formal

FIGURE 1

ORGANIZATIONAL STRUCTURE

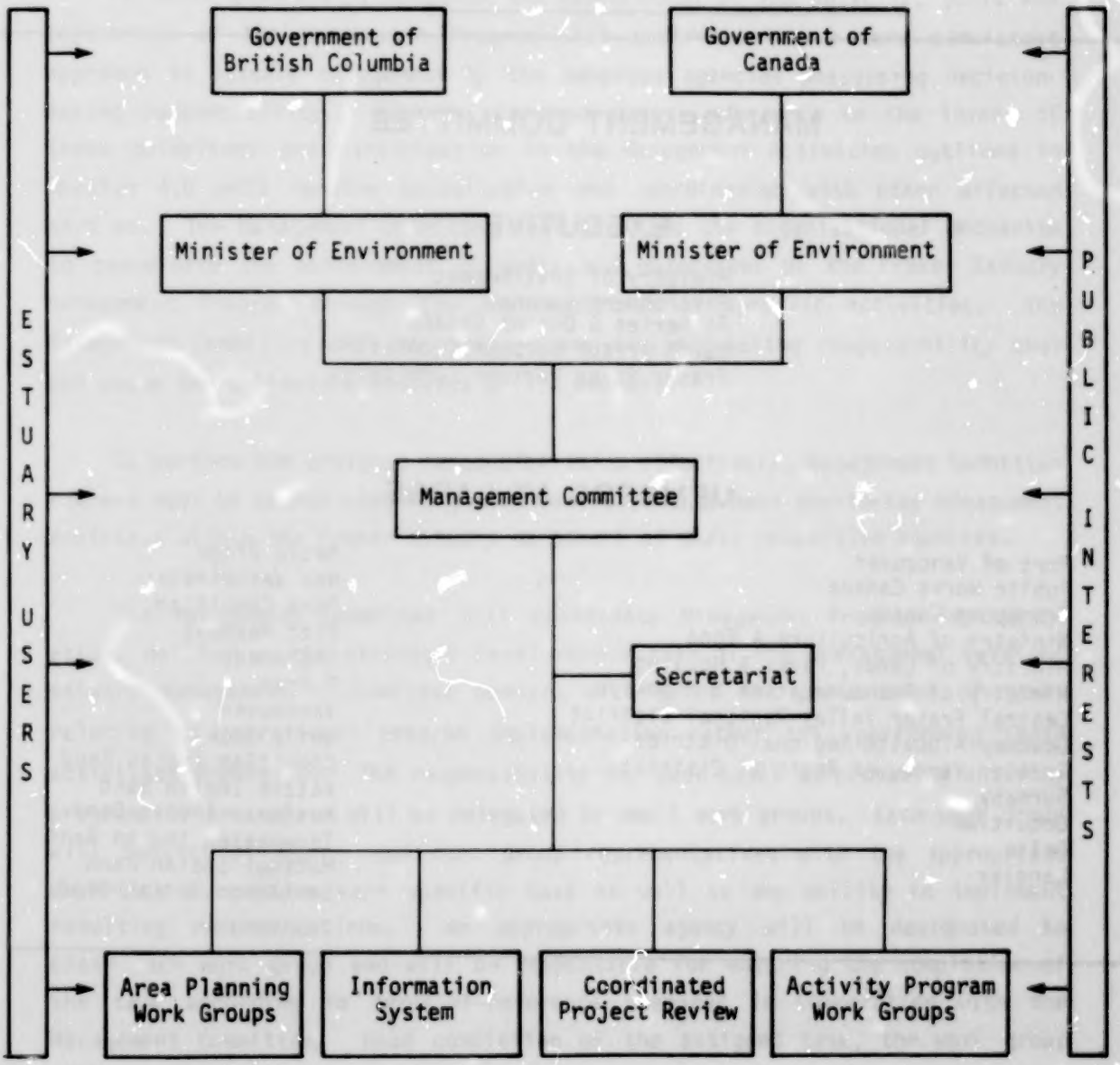


FIGURE 2

COMMITTEE STRUCTURE

British Columbia Minister of Environment

Canada Minister of Environment

MANAGEMENT COMMITTEE

EXECUTIVE

Ministry of Environment
Environment Canada
Fisheries & Oceans Canada
North Fraser Harbour Commission
Fraser River Harbour Commission

MEMBERS AT LARGE

Port of Vancouver
Public Works Canada
Transport Canada
Ministry of Agriculture & Food
Ministry of Lands, Parks & Housing
Ministry of Transportation & Highways
Central Fraser Valley Regional District
Dewdney-Alouette Regional District
Greater Vancouver Regional District
Burnaby
Coquitlam
Delta
Langley

Maple Ridge
New Westminster
Port Coquitlam
Pitt Meadows
Richmond
Surrey
Vancouver
White Rock
Coquitlam Indian Band
Katzie Indian Band
Musqueam Indian Band
Tsawwassen Indian Band
Matsqui Indian Band
Semiahmoo Indian Band

opportunity to develop a more consistent and coordinated approach to estuary management by the numerous agencies whose actions affect the estuary. The Management Committee will ensure broad representation and provide a central contact for the Management Program.

As noted previously, adoption and application of the policies, goals and objectives of the Management Program will contribute to a more consistent approach to estuary management by the numerous agencies possessing decision-making responsibility. However, in most cases, adherence to the intent of these guidelines and participation in the Management Activities outlined in Section 4.0 will require consultation and coordination with other affected parties. The Management Committee thus provides the organizational mechanism to coordinate the achievement of goals and objectives of the Fraser Estuary Management Program through the implementation of specific activities. The Management Committee will not possess any decision-making responsibility over and above the collective mandates of its members.

To perform the assigned responsibilities effectively, Management Committee members must be senior level decision-makers able to make day-to-day management decisions within the Fraser estuary on behalf of their respective agencies.

The Management Committee will coordinate Management Program implementation, dealing at the strategic level rather than at the operational level of estuary management. Committee members will guide the performance of tasks relating to operational program implementation rather that performing these activities themselves. The responsibility for such tasks as preparing activity programs or area plans will be delegated to small work groups. Each work group will consist of agency and user group representatives with the appropriate expertise to perform each specific task as well as the ability to implement resulting recommendations. An appropriate agency will be designated to chair each work group and will be responsible for ensuring the completion of the task according to terms-of-reference prepared in cooperation with the Management Committee. Upon completion of the assigned task, the work group will be disbanded.

To provide effective coordination and leadership of the Management Committee, it is recommended that an Executive consisting of the agencies listed in figure 2 be established. The functions of the Executive will include arranging Committee meetings, developing terms-of-reference for approved activities in consultation with the involved parties, coordination and liaison with ongoing activities such as work group preparation of activity programs, and the evaluation of progress towards the implementation of the Management Program. Chairmanship responsibilities will be assigned to Federal/Provincial co-chairmen.

A two person Secretariat is proposed to provide administrative support to the Management Committee. The primary objective of this Secretariat will be to ensure that the administration of the Management Program runs smoothly. To achieve this end, the Secretariat will be responsible for preparing material for consideration by the Management Committee, providing administrative support to the coordinated project review system and the Central Project Registry, developing the information system, and serving as a point of contact for the public.

In recognition of the general policy on public sector restraint, the Secretariat staff should be seconded or supported by previously approved budgets from one or more of the agencies on the Executive. Office space and equipment to locate the Secretariat and operate the Central Project Registry and Information Referral Service described in sections 4.1 and 4.2 must also be provided by one of these agencies. It would seem advantageous to have the Secretariat's office in close proximity to one of the Management Committee co-chairmen.

Each participant must recognize that the Secretariat constitutes only one portion of the total commitment required to implement the Management Program. Technical and professional support will also be required to implement the activity programs and area plans as well as to contribute to ongoing activities such as the information system. The most appropriate source of this expertise

generally lies within the participating organizations. Each agency on the Management Committee must determine the staff resources and budgets required to implement those activities in which it will be involved. As noted earlier, a Federal-Provincial Agreement is proposed to provide for work-sharing and the allocation of committed budgets within agencies.

The Management Committee as a whole will meet twice a year to review progress in implementing the Management Program. The Executive will convene as often as required to perform their responsibilities. Executive meetings will be open to all Management Committee members. An agenda will be distributed in advance to allow members to participate in those meetings where items of particular interest are being discussed.

It is expected that conflicts will be resolved in an open forum. Special task forces may be initiated by the Management Committee to explore and report on conflict issues. If the Committee is unable to resolve a conflict, the issues will be referred by the federal/provincial co-chairmen to the Federal and Provincial Ministers of Environment who will serve as the primary points of contact with the political process.

An annual state of the estuary report will be prepared and widely distributed by the Management Committee to provide an opportunity for all parties to assess individual and collective progress towards meeting the Management Program's goals and objectives. The results of this evaluation will assist the Committee in adjusting the activities of the Management Program and in advising the participating governments of progress.

The primary responsibility for improving the management of the Fraser estuary will continue to rest with those agencies which currently have management authority. Participation in the Management Program will promote more consistent and coordinated management of the Fraser estuary. However, this objective will not be achieved unless each agency develops a commitment to

adhering to the policies, goals and objectives and to participating in the activities of the Management Program. To develop this commitment, each agency should identify their own goals and objectives for the Fraser estuary in concert with the intent of the Management Program. Exchange and comparison of such information and plans between agencies will provide the basis for linking inter-related plans and activities in a way that will result in estuary management being progressively more coordinated, efficient and effective.

3.1 PUBLIC CONSULTATION

Public consultation will be an important factor during implementation of the Management Program. A variety of opportunities for the public to contribute to the ongoing management of the Fraser estuary must be clearly defined from the outset. Considerable expectations already exist, particularly in relation to the high profile and organized level of public involvement during Phase II of the Fraser River Estuary Study. Concern regarding the manner in which the public will be involved in implementation was strongly expressed in the public comments on the Phase II proposal.

The Management Program is designed to provide a number of opportunities for public consultation and to assist the public by increasing the availability of useful information on the estuary. The public will have a choice of methods for influencing estuary decision-makers. The current means of directly contacting estuary managers will be supplemented by access to the Management Committee. Through the Secretariat, the public will be able to bring issues to the attention of the Management Committee and receive information on their deliberations and initiatives.

During the preparation of activity programs and area plans various public interests will be given an opportunity to participate on those work groups where they have a specific contribution to make. For example, the Council of Forest Industries would be invited to participate on the Log Management

activity program work group and the Outdoor Recreation Council on the Recreation activity program work group.

The first step in public consultation should be discussions among the Management Committee and those groups or individuals wishing to participate in implementation to work out details for effective involvement. Various options for organizing communication and coordinating involvement in the Management Program should be explored, recognizing that public consultation can be improved as the implementation process evolves.

Public information is also an important component of the Management Program. The information system proposed in Section 4.2 will provide access to details on the Management Program and sources of information on the estuary. Provision of this type of information should enable the public to become more aware of the management issues being addressed and, as a result, lead to more effective contributions to the activities of the Management Program.

In view of government restraint, it is recognized that government funds to support participation are not available. Assistance to the public must be in the form of improved access to estuary information and additional opportunities to interact with estuary decision-makers.

4.0 MANAGEMENT ACTIVITIES

During Phase II of the Fraser River Estuary Study a number of activities designed to improve current approaches to estuary management were proposed. These activities have been expanded and refined in light of the review comments received and are presented in the following sections as actions requiring attention.

4.1 COORDINATED PROJECT REVIEW

It is essential that the Fraser River Estuary Management Program include a system which provides thorough and efficient review of proposed projects and activities in the estuary. Often the most direct and noticeable effects of estuary management result from the recommendations and decisions that follow from project reviews. Much of the success of the Management Program will be measured by how effectively these reviews are conducted.

The need for and frequency of project reviews will diminish over time as activity programs, area plans and area designations are implemented. At present, however, coordinated project review is needed primarily to address the instances where uncertainty or conflict exist concerning proposed or existing uses of the estuary.

Currently a number of project review mechanisms operate in the Fraser estuary ranging from referral systems among regulatory agencies to formal impact assessment and review procedures which include public hearings. During Phase II of the Fraser River Estuary Study, several problems were identified in relation to existing procedures. These include: lack of a systematic process for evaluating projects, overlapping and repetitive reviews which delay decisions, inaccuracy and gaps in information available for decision-making, and insufficient guidance to the complex and often bewildering array of regulatory requirements. Based upon the Referrals Enhancement proposal in the Phase II Information Systems report, the project review system recommended for the

Management Program will respond to these problems by integrating and streamlining existing referral, environmental impact assessment, and other project review systems and by improving coordination of the steps involved in project review.

Coordination can be improved by centralizing administration of project reviews by a Lead Agency. The Lead Agency is determined on the basis of primary management responsibility, and in most cases will be the agency responsible for issuing leases for foreshore areas. The Fraser River Harbour Commission will serve as Lead Agency to coordinate review of projects proposed within its area. The North Fraser Harbour Commission and the Ministry of Lands, Parks and Housing will be the Lead Agency for proposed projects located within their respective areas. For proposed projects requiring a waste management permit but not involving issuance or modification of a foreshore lease, the Ministry of Environment will be the Lead Agency.

Planning activities under the Management Program should reduce much of the uncertainty concerning project siting. If a proposed project is located in an area that has been planned for that use, and it conforms with general environmental guidelines prepared by government agencies, then the project could be approved-in-principle without further referral. Such guidelines would outline standard precautions such as construction timing restrictions to avoid fish impacts and measures to be incorporated in undertaking certain activities. In the case of projects conforming with established guidelines, appropriate environmental agencies would be notified at the same time the approval-in-principle is granted by the Lead Agency so they can supervise implementation as necessary. Every project will be entered into the Central Project Registry.

Some initial steps have already been undertaken to streamline the project review process. A number of forms including a common application form have been designed to be used by all agencies, thus standardizing the type of information received by the Lead Agency. These forms should now be tested in the field with specific project proposals and refined in light of this

experience. In addition, environmental agencies should complete the formal documentation of guidelines associated with siting and constructing routine projects such as pilings, log storage and wharfs, based on information collated during the Fraser River Estuary Study..

These measures should help to reduce the need for project review and thereby make coordination of project reviews by a Lead Agency more manageable. However, there will be instances where proposed projects will require a greater degree of environmental review than determining whether a project conforms with established criteria and guidelines. When, in the opinion of a Lead Agency or an environmental agency, a proposed project does not sufficiently conform with land use or environmental guidelines established under the Management Program, then a more detailed environmental review of the project would be undertaken.

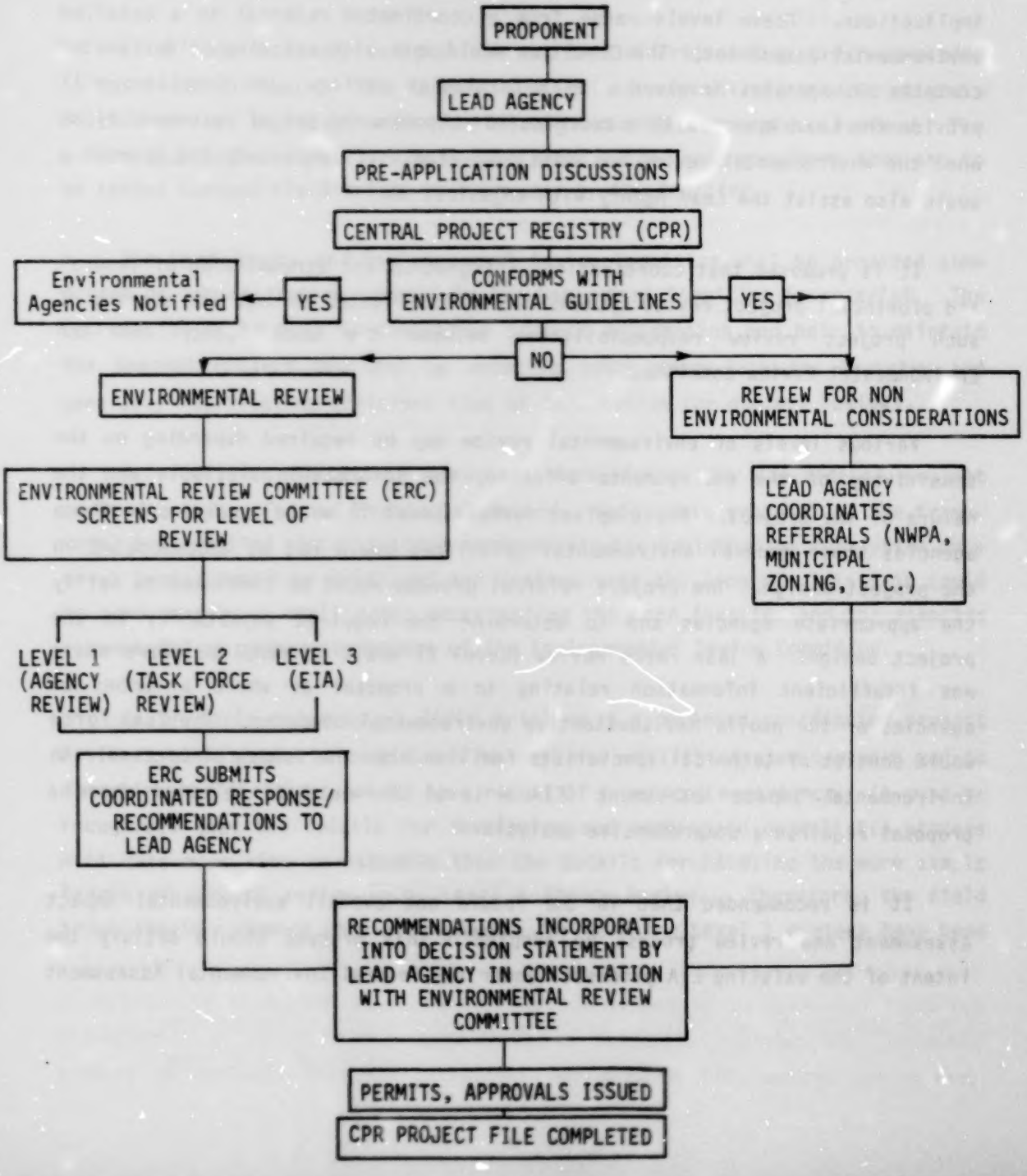
In such situations a "single window" approach is advocated for coordinating these more detailed environmental reviews. A flow diagram of the proposed aproach is presented in figure 3. To implement this approach and to assist the Lead Agency with coordinating project reviews, a federal/provincial Environmental Review Committee should be established.

The Ministry of Environment, Environment Canada, and Fisheries and Oceans Canada should be permanent members of the Environmental Review Committee, two of which will serve as federal/provincial co-chairmen. Additional Committee members would be assembled from other agencies to provide needed expertise as related to the particular attributes of a proposed project. Committee members from each agency will be the same individual designated by that agency to handle project reviews. No additional staff would be needed to form the Committee.

In cases where there is uncertainty regarding the implications of a proposed project, the Environmental Review Committee will be responsible for reviewing all environmental aspects of the proposal while the Lead Agency will

FIGURE 3

SCHEMATIC FLOW DIAGRAM FOR COORDINATED PROJECT REVIEW


PROPONENT
LEAD AGENCY
PRE-APPLICATION DISCUSSIONS
CENTRAL PROJECT REGISTRY (CPR)
CONFORMS WITH ENVIRONMENTAL GUIDELINES
YES
Environmental Agencies Notified
YES
NO
ENVIRONMENTAL REVIEW
REVIEW FOR NON ENVIRONMENTAL CONSIDERATIONS
ENVIRONMENTAL REVIEW COMMITTEE (ERC) SCREENS FOR LEVEL OF REVIEW
LEAD AGENCY COORDINATES REFERRALS (NWPA, MUNICIPAL ZONING, ETC.)
LEVEL 1 (AGENCY REVIEW)
LEVEL 2 (TASK FORCE REVIEW)
LEVEL 3 (EIA)
ERC SUBMITS COORDINATED RESPONSE/ RECOMMENDATIONS TO LEAD AGENCY
RECOMMENDATIONS INCORPORATED INTO DECISION STATEMENT BY LEAD AGENCY IN CONSULTATION WITH ENVIRONMENTAL REVIEW COMMITTEE
PERMITS, APPROVALS ISSUED
CPR PROJECT FILE COMPLETED

handle required reviews for non-environmental considerations such as municipal zoning or navigational interference. In such cases the Environmental Review Committee in close consultation with the Lead Agency, will be responsible for selecting the appropriate level of review needed to properly address the implications. These levels range from a coordinated referral to a detailed environmental assessment. The Committee would work with existing or designated contacts in agencies involved with a particular review. The Committee will provide the Lead Agency with a coordinated response and set of recommendations when the environmental review has been completed. If requested, the Committee would also assist the Lead Agency with adjudication.

It is proposed that coordination, integration and streamlining of federal and provincial project review systems can be facilitated through the sharing of such project review responsibilities between the Lead Agency and the Environmental Review Committee.

Various levels of environmental review may be required depending on the sensitivity of the environments affected, the information available and the nature of the project. The simplest review (Level 1) would involve only those agencies whose general environmental guidelines could not be accommodated in the project design. The project referral process would be initiated to notify the appropriate agencies and to determine the required adjustments to the project design. A Task Force Review (Level 2) would be required where there was insufficient information relating to a proposal or where a number of agencies or the public had substantive environmental concerns. The Task Force would consist of technical specialists familiar with the issues of concern. An Environmental Impact Assessment (EIA - Level 3) would be selected where a proposal required a comprehensive analysis.

It is recommended that in the future one overall environmental impact assessment and review process be adopted. This process should satisfy the intent of the existing EIA processes under the federal Environmental Assessment

and Review Process and provincial Order-in-Council 908/77. Arrangements to resolve apparent jurisdictional impediments to using one EIA process for both federally administered and provincially administered portions of the estuary must be explored.

It will be necessary to establish the Central Project Registry recommended in the Phase II report. The Central Project Registry will be used to maintain files for each application handled through coordinated project review. The common application forms, project summary and agency response forms that are to be tested through field trials will be used by the Registry.

The Lead Agency and Environmental Review Committee will be provided some degree of administrative support by the Management Committee Secretariat. The Secretariat could help to distribute project information and help to maintain the Central Project Registry by entering information into the Registry and generally facilitating efficient flow of information for project reviews.

Consideration should be given to formalizing the coordinated project review through a Federal/Provincial Accord. Using this proposal as the framework, the detailed administrative arrangements for implementing the system on a trial basis should be developed and drafted into the Accord. This task could be performed by a small group representing the Lead Agencies and the agencies recommended as permanent members of the Environmental Review Committee.

As an early priority, a field trial of the proposed coordinated project review system should be undertaken to test how well the system can work and to determine modifications needed as a result of practical experience. It must be recognized that the details for developing and testing an overall EIA process will take more time to assemble than the details for handling the more simple levels of project review (e.g. Level 1 Agency Review). Therefore, the field trial should commence once arrangements for handling Level 1 reviews have been

developed and, when the details for handling Level 2 or Level 3 Review have been agreed upon then these elements of the system would be phased into the field trial. Once the field trial has been made, all involved parties will be in a better position to judge what kind of permanent project review system should be adopted for the Management Program.

4.2 INFORMATION SYSTEM

A Fraser Estuary Information System is proposed to achieve two major objectives:

1. To provide useful and accurate information to estuary managers and decision-makers. (Management Information)

2. To improve public knowledge of the estuary, its resources, and the activities which take place therein. (Public Information)

4.2.1 MANAGEMENT INFORMATION SYSTEM

Ensuring the availability of the types of information required to permit resources managers to make informed decisions regarding the management of the Fraser estuary will be critical to achieving the goals of the Management Program. To date, both the lack of suitable information and its varying availability have contributed to conflicts between agencies and in some cases resulted in poor management decisions. A coordinated approach to managing information is required to address these issues.

To respond to this need, a Management Information System is proposed. The primary objective of the system will be to provide the types of information required to improve decision-making. The system will offer a variety of estuary information (facts, trends, forecasts, functional knowledge) which when analysed, shared, and applied by estuary managers will create opportunities for improved coordination of management activities, more efficient allocation of resouces, and quicker resolution of conflicts. In addition, the Management Information System will provide the evaluative feedback required by estuary

managers to assess their progress in achieving the goals and objectives of the Management Program and to evaluate whether the stated policies are achieving their aims. Providing information to the system will be the responsibility of Management Program participants.

The following Management Information System functions are envisaged:

1. Data Inventory

   -regularly updated information on a number of estuary variables including land use, water quality, recreation sites, leases areas, and habitat acreages.

2. Forecasts/Trends

   -the preparation of regular forecasts for important variables affecting management of the estuary as the basis for evaluating decisions and policies.

   -the analysis of trends to evaluate progress in achieving goals and objectives and to identify new issues requiring attention.

3. Policy Evaluation

   -the monitoring and evaluation of the Management Program's policies to determine their success in achieving the Program's goals and objectives.

To develop or collect the required information, the following activities must be carried out in a coordinated manner:

1. Selective INVENTORY of existing resources and activities.
2. MONITORING of those trends identified as critical to estuary management (e.g. water quality).

3. RESEARCH into the functional relationships of ecological, social and economic processes.

4. ADJUSTMENT of ongoing processes such as environmental impact assessment and referral systems to better serve management information needs.

5. SYNTHESIS and ANALYSIS of the information obtained from inventories, monitoring, and research as well as activities such as assessments and referrals to provide useful management information and to evaluate progress in developing the Management Program.

The development of the Management Information System will be a phased process. In response to current budget limitations and the need to maintain flexibility in the early stages of the Management Program, the System should initially be structured to provide a simple means to address issues of immediate application to current decision-making. That is, to prepare those products and implement those procedures of greatest use to the day-to-day activities of the key agencies. As the economic situation improves and experience with the estuary management program is obtained, the Management Information System can be expanded to provide more comprehensive support to the implementation effort.

It is recommended that the establishment of the Central Project Registry as part of the coordinated project review system and the development of an Information Referral Service be initiated immediately. A description of the role and structure of the Central Project Registry is contained in Section 4.1.

The objective of the Information Referral Service is to direct interested parties to sources of information on the Fraser estuary. Operation of the Service will require the preparation and regular updating of an annotated bibliography of all sources of information; identification of their location;

preparation of an agency catalogue; maintenance of information on current projects and initiatives; and arrangements for the fielding of inquiries.

The Secretariat staff will provide administrative support to the Central Project Registry and the Information Referral Service once they have been established. However, in order to get to the operational stage it will be necessary to rely on the assistance and cooperation of agencies and institutions that are presently engaged in generating or storing information relating to the estuary.

The Central Project Registry and the Information Referral Service will contribute to the achievement of activities 4 and 5 noted above. As resources become available, additional tasks can be undertaken to respond to the remainder of the management information activities identified in this section. These will include updating resource inventories, identifying the variables that must be monitored in order to evaluate policy success or goal achievment, and establishing a monitoring program. A considerable portion of this information will be developed as part of the Activity Program objectives identified in Appendix 2.

4.2.2 PUBLIC INFORMATION

Much of the information available through the Management Information System will also be useful for public information purposes. As a starting point the public should be provided access to the Information Referral Service and Central Project Registry information. However, to effectively inform the public, additional interpretation and refinement of often complex estuary information and issues will be required. Accordingly, sources of information such as the annual state of the estuary report and possibly an estuary newsletter should be made available to the public as a means of supplementing the more technically oriented information contained within the Management Information System. The details regarding the public information component

should be worked out during the development of the public consultation program outlined in Section 3.1.

4.3 WATER QUALITY PLAN

The purpose of the Water Quality Plan is to establish specific ambient water quality objectives throughout the study area and to coordinate monitoring and enforcement programs to ensure such objectives will be met and maintained. The Water Quality Plan will be closely interrelated with the Waste Management and Drainage and Dyking activity programs. Maintenance of acceptable levels of water quality is also of significance to other estuary-wide activities such as habitat management, recreation and port-industrial development.

Development of the Water Quality Plan will be a joint federal and provincial undertaking. It will include the formulation of water quality objectives and the establishment of a monitoring program. Currently, the monitoring program is being designed by an intergovernmental water quality monitoring committee, while the Ministry of Environment, in consultation with federal agencies, is preparing interim water quality objectives.

The Water Quality Plan will be iterative and subject to periodic adjustment. It will describe a phased process for establishing more definitive ambient water quality objectives based on an analysis of monitoring results and information received from enforcement activities. A means of evaluating the effectiveness of the monitoring and enforcement activities will also be described in the plan.

Due to their complementary nature, the Water Quality Plan, the Waste Management Activity Program and the Area Plans should be prepared in conjunction with one another. Protection of water quality is the ultimate objective and can be achieved through controls on waste discharges and the siting of future discharges to avoid further deterioration in water quality. In

practice, social and economic considerations associated with controlling waste discharges will play an important role in the implementation of these three linked activities. The Water Quality Plan would also specify priorities and terms of reference for further research into improving the understanding of the effects of waste discharges on water quality and fishery resources.

4.4 ACTIVITY PROGRAMS

Activity programs are intended to prepare strategies to address estuary-wide activities such as log storage or recreation. By examining the existing nature of an estuary-wide activity, its effects on the estuary, and its forecast requirements from environmental, social, and economic perspectives, guidelines and recommendations for consideration by all decision-makers in the estuary will be prepared.

Each program will develop strategic objectives for a specific activity which can then be linked with those of other activities through the area planning process to develop a truly integrated management program.

Activity programs will be prepared by work groups comprised of agency and user group representatives. The Management Committee will supervise and coordinate the preparation of various Programs. However, a designated Agency will be reponsible for delivering each activity program on schedule and according to specified terms-of-reference compatible with the overall management strategy. All participants must be prepared to commit necessary staff or other internal resources.

A description of each activity program is contained in Appendix 2. The general objectives and tasks identified for each program will be refined by the appointed work group in cooperation with the Management Committee to provide specific terms-of-reference. A proposed sequence for developing activity programs in conjunction with area plans/designations is presented in Figure 4.

FIGURE 4

PROPOSED SEQUENCE FOR DEVELOPING ACTIVITY PROGRAMS AND AREA PLANS/AREA DESIGNATIONS

1. PREPARE TERMS-OF-REFERENCE AND BEGIN DRAFTING:

   (a) Water Quality Plan
   (b) Waste Management Activity Program
   (c) Habitat Management Activity Program
   (d) Log Management Activity Program

2. PREPARE TERMS-OF-REFERENCE AND BEGIN DRAFTING AREA PLANS.

3. PREPARE TERMS-OF-REFERENCE AND BEGIN DRAFTING:

   (a) Recreation Activity Program
   (b) Port and Industrial Development Activity Program
   (c) Navigation and Dredging Activity Program

4. PREPARE TERMS-OF-REFERENCE AND BEGIN DRAFTING:

   (a) Dyking and Drainage Activity Program
   (b) Emergency Management Activity Program

5. REVISE AREA PLANS ON BASIS OF ACTIVITY PROGRAM RESULTS.

6. REVISE AREA DESIGNATIONS ON BASIS OF ACTIVITY PROGRAM AND AREA PLANNING RESULTS.

7. ONGOING REFINEMENT OF WATER QUALITY PLAN, ACTIVITY PROGRAMS, AREA PLANS/AREA DESIGNATIONS AS NEEDED. BASED ON ANNUAL REVIEW OF MANAGEMENT PROGRAM.

4.5 AREA PLANS AND AREA DESIGNATIONS

Area plans are land and water use plans which will be prepared for the following six areas within the estuary: Boundary/Semiahmoo Bays, Delta Front, North Fraser, Lower Fraser Main Arm, Upper Fraser Main Arm and Pitt River. Each plan will take the overall goals, policies and objectives, the results of activity programs, and other information produced during implementation and interpret them in relation to the characteristics of the area in question. Given the spatial orientation of these plans, their preparation will be led by agencies with land and water use management responsibility. Additional participants will be selected on the basis of the issues being examined and the actions being recommended. The area plans will provide direction on how to incorporate the intent of the Management Program into operational level decision-making.

A key element in the preparation of area plans will be the incorporation of the area designations developed during Phase II. Area designation provides a guide to "the best use of the estuary" based on the estuary's natural attributes and its suitablility for human activities. The Second Draft Area Designation Map is intended to serve as a guide in preparing area plans and activity programs and as a reference for agency decision-making. Each agency should be requested to adopt the Area Designation Map as a guide for land and water use decision-making in the Fraser estuary. As there are a number of areas which have not been designated because of information deficiencies or lack of agency concensus on "best use", action should be taken to reassess these undetermined use areas. Once agreement is reached regarding these areas and any other concerns or disputes these amendments should also be adopted.

As noted in the introduction, implementing the Management Program will require the cooperation and support of upland owners and managers as well as those with estuary management responsibilities. This cooperation is particularly crucial in relation to area planning and area designation as local government is responsible for deciding on and governing the use of privately owned upland except in the case of Agricultural Land Reserves. Many of the

goals, policies and associated activities proposed in the implementation strategy cannot be achieved by only taking action on the wetted side of the dyke; cooperative upland action must also be encouraged. Consequently, all area planning and area designation activities must be directed by those agencies with land and water use management responsibilities on either side of the dyke. In addition, it must be recognized that the derived recommendations on how to incorporate the intent of the Management Program into operational level decision-making will only serve as guides and not as legally binding regulations.

Activity programs can be viewed as strategic plans for each activity and area plans as the means for applying their findings at the operational level. Given the relationship between these two initiatives, it is recommended that area planning be restricted to preliminary analyses until the activity programs are complete. However, in the interim, documentation and analysis of issues of particular concern and resolution of undetermined use areas can establish a framework for future preparation of area plans.

APPENDIX 1

REVIEW COMMENTS RECEIVED

Federal

- Environment Canada
- Fisheries and Oceans Canada
- Public Works Canada
- Department of Regional Economic Expansion
- Department of Indian and Northern Affairs
- Canadian Coast Guard
- Fraser River Harbour Commission
- North Fraser Harbour Commission

Provincial

- Ministry of Environment
- Ministry of Forests
- Ministry of Transportation and Highways
- Ministry of Lands, Parks and Housing
- Ministry of Industry and Small Business Development
- Ministry of Agriculture and Food
- Agricultural Land Commission
- Ministry of Municipal Affairs
- Ministry of Health
- B.C. Harbours Board

Regional

- Central Fraser Valley Regional District
- Dewdney- Alouette Regional District
- Greater Vancouver Regional District

Municipal

- Burnaby
- Coquitlam
- Delta
- Langley
- Langley City
- Maple Ridge
- New Westminster
- Port Coquitlam
- Pitt Meadows
- Richmond
- Surrey
- White Rock

APPENDIX 2

ACTIVITY PROGRAMS

The following activity programs are suggested for preparation in the manner outlined in Section 4.3. The objectives identified for each activity program have primarily been derived from the Goals and Objectives presented in the Phase II management proposal. An objective has been defined as a time dependant, measurable aim intended to guide specific management actions and activities. In this manner they contribute to the achievement of the goals presented in Section 2.0. Each set of objectives and tasks will be refined by the work group responsible for the preparation of the activity program in cooperation with the Management Committee to provide specific terms-of-reference. The order of presentation is not intended to indicate priority. A proposed sequence for developing these programs in conjunction with area plans and designations is presented in Figure 4.

1. PORT AND INDUSTRIAL DEVELOPMENT

Objectives

1. To determine the supply and demand for Fraser port and industrial facilities and prepare a development strategy outlining means and accomodating anticipated trends.

2. To account for:

   a) economic, social and environmental costs and benefits within and outside the port area;
   b) engineering and navigation requirements;
   c) compatibility with upland and other estuary uses and policies; and

d) avoidance or mitigation of environmental impacts and compensation for lost resources in the context of the Management Program's habitat management policies.

3. To identify and designate areas suitable for water-oriented industrial development.

Component Tasks

1. Descripition of current supply and demand for port and industrial facilities.

2. Projection of supply and demand for port and industrial development.

3. Preparation of a development strategy based on projected requirements for construction of additional port and industrial facilities and/or relocation of existing facilities.

4. Other tasks to be identified.

Suggested Work Group Membership

North Fraser and Fraser River Harbour Commissions, Port of Vancouver, British Columbia Development Corporation, Public Works Canada, Transport Canada, Ministry of Transportation and Highways, Regional Districts, Municipalities, and other support agencies or user interests as needed.

Current Initiatives

The Port of Vancouver is currently preparing a Master Plan which will serve as a guide to the future developments of Port related facilities and other activities within the Port area. The Master Plan will outline Port development strategies for the years 1990, 2000, and 2010.

The Ministry of Industry and Small Business Development is currently coordinating the preparation of analyses on the supply and demand for industrial land in the Lower Mainland until the year 2000.

2. NAVIGATION AND DREDGING

Objectives

1. To identify and meet the navigational and safety requirements that will ensure port development potential can be realized and remain viable.

2. To identify long-term dredging requirements in relation to forecast navigational improvements.

3. To undertake necessary studies and design work to assure acceptable programs for the disposal or use of dredged material.

Component Tasks

1. Review navigation channel improvement proposals and traffic demand forecasts and describe programs to ensure navigation and safety requirements keep pace with in port development.

2. Identify existing and long-term channel maintenance dredging areas, locate sites for acceptable deposition of dredged material and establish programs for handling dredged material disposal.

3. Other tasks to be identified.

Suggested Work Group Membership

Transport Canada, Public Works Canada, Harbour Commissions, Fisheries and

Oceans Canada, Environment Canada, Ministry of Environment and other support agencies or user interests as needed (e.g. Council of Marine Carriers).

Current Initiatives

Public Works Canada has been working with an intergovernmental task force of the Regional Screening and Coordinating Committee to identify options for dredged material deposition and to determine location, design and operational provisions for acceptable disposal sites.

3. WASTE MANAGEMENT

Objectives

1. To maintain ambient Water Quality objectives throughout the Fraser estuary and where degraded to improve water quality to achieve ambient objectives by:

   a) Halting unregulated discharges and illegal dumping of hazardous wastes.

   b) Controlling pollution contributed by storm water discharges.

   c) Meeting long term solid waste management needs.

   d) Reducing or eliminating fecal contamination.

2. To provide a comprehensive program for pollution source control, treatment and disposal of municipal wastes, industrial and toxic wastes, solid waste disposal, and handling of urban and rural run-off.

Component Tasks

1. Develop a source control program for municipal and industrial effluents.

2. Establish criteria for the siting of a hazardous waste disposal and/or collection facility.

3. Develop waste management compliance and upgrading schedules based on attaining and maintaing ambient water quality objectives.

4. Identify present methods and trends in treatment and disposal of liquid and solid wastes and recommend cost-effective means to improve waste treatment and disposal.

5. Identify problem spots throughout the estuary by using water quality and biota as indicators and make recommendations to solve the problems.

6. Other tasks to be identified.

Suggested Work Group Membership

Ministry of Environment, Environment Canada, Fisheries and Oceans Canada, Greater Vancouver Sewerage and Drainage District, municipalities, user interests and other support as needed.

Current Initiatives

1. Setting of interim water quality objectives as part of the Ministry of Environments's Fraser Delta strategic plan.

2. Ministry of Environment's special waste task force.

4. HABITAT MANAGEMENT

Objectives

1. To manage fish and wildlife habitats through protection, restoration, enhancement, and research.

2. To encourage better habitat management decision-making by improving the information base on habitat areas, ecological processes occuring in each area, and their significance.

3. To improve the abilities of habitat management agencies to assess the environmental consequences of various activities and measures to avoid or minimize losses.

4. To improve mitigation technologies and develop means to compensate for habitat losses.

Component Tasks

1. Ensure the conservation and management of all Crown owned habitats.

2. Restore habitats currently in a degraded state where it is practical to do so.

3. Develop habitat creation, restoration, and enhancement pilot prcjects to assess the cost and biophysical effectiveness of various methods.

4. Encourage public enjoyment and appreciation of habitat systems.

5. Develop coordinated programs to:
   a) monitor habitat losses and gains;
   b) survey the effectiveness of mitigation measures during project construction.
   c) fund acquisition and management of priority habitat areas; and
   d) undertake experimental management and functional relationship research to supplement onging ecological inventory work.

6. Integrate policies and practices relating to catch management, hunting, enhancement, habitat protection and water quality.

7. Establish a program to evaluate habitat trade-off proposals, off-site compensation and other measures to ensure habitat gains match habitat losses.

Suggested Work Group Membership

Fisheries and Oceans Canada, Ministry of Environment, Environment Canada, regional districts, municipalities and other support agencies or user interests as needed.

Current Initiatives

Westwater Research has prepared a program for estuarine habitat management of Tilbury Slough for Fisheries and Oceans Canada.

Work is being done on habitat compensation measures in relation to the Roberts Bank Port Expansion.

The Ministry of Environment's Fraser Delta strategic plan, in consultation with other habitat management agencies, will be establishing fisheries and wildlife resource management objectives throughout the estuary.

A Sturgeon Bank/Ladner Marsh Management Plan is currently being prepared for the Fish and Wildlife Branch (Ministry of Environment, Lower Mainland Region) and the Canadian Wildlife Service. Options to promote habitat and wildlife productivity will be developed and analysed to produce a long-term management strategy.

5. LOG MANAGEMENT

Objectives

1. To describe current use of the estuary for log transportation and handling.

2. To forecast supply and demand trends in log transportation and handling .

3. To develop guidelines for log transportation and handling consistent with the Management Program's policies and goals.

Component Tasks

1. Documentation and analysis of the current log transportation and handling situation.

2. Assessment of future demand for log transportation and handling.

3. Determination of the impact of log transportation and handling on estuary resources and other estuary activities.

4. Designation of log transportation and handling areas.

5. Preparation of policies, conditions of use, and practices and procedures for log transportation and handling.

6. Other tasks to be identified.

Suggested Work Group Membership

Harbour Commissions, Fisheries and Oceans Canada, Environment Canada Council of Forest Industries, Ministry of Lands, Parks and Housing, and other support agencies or user interests as needed.

Current Initiatives

The North Fraser and Fraser River Harbour Commissions have prepared a description of the current Fraser estuary log management system within a coastwide context and of alternative log management locations and technologies. Fisheries and Oceans Canada is undertaking two pilot projects. The Harbour Commission Lease Pilot Project will identify and map log handling information currently in Harbour Commission files and undertake field checks of log storage areas to assess their extent as compared to lease agreement, protective measures in place, and debris accumulation. The objectives of the Debris Disposal Pilot Project are to locate and dispose of debris build-up and to assess the time, effort, and administrative considerations associated with debris disposal.

6. RECREATION

Objectives

1. To prepare a recreation plan for the estuary which includes:

   a) regional scale recreation areas in each of the six estuary management areas
   b) linear corridors between regional sites
   c) links between estuary recreation sites and upland recreation opportunities

d) identification and preservation of archaeological and historic sites, wildlife habitat and viewing areas and scenic river views; and

e) recognition of other estuary and upland activities; policies and plans.

2. To designate and manage key recreational areas.

3. To establish a funding program to acquire and/or manage recreation areas within the estuary.

4. To increase public awareness of recreational opportunities through improved distribution of information.

Component Tasks

1. Description of recreation resources within the estuary, their current use and status.

2. Assessment of current and future demand for recreational use of the estuary in the context of upland alternatives.

3. Evaluation of those areas heavily used for recreation but not officially designated or protected to determine options for their future use and management.

4. Preparation of a Fraser River Estuary Recreation Plan.

5. Preparation of guidelines for the development and management of recreation areas.

6. Other tasks to be identified.

Suggested Work Group Membership

Regional Districts, Municipalities, Harbour Commissions, Ministry of Lands, Parks and Housing, and other support agencies or user groups as needed.

7. DYKING AND DRAINAGE

Objectives

1. To ensure adequate flood protection by maintaining and improving the dyking system.

2. To meet drainage requirements while minimizing adverse effects on adjacent land or water uses and receiving water quality.

Component Tasks

1. Identify means by which the upgrading of existing dykes or construction of new dykes can be made compatible with adjacent land uses or habitat areas.

2. Examine existing problems associated with drainage programs such as water quality, stream/fish impacts, agricultural impacts and recommend remedial measures and related design considerations to be incorporated into new drainage works.

Suggested Work Group Membership

Ministry of Environment, Environment Canada, Fisheries and Oceans Canada, Greater Vancouver Sewer and Drainage District and support agencies or user interests as needed.

Current Initiatives

Much of the dyking in the estuary is being supported by the Federal/Provincial Fraser River Flood Control Agreement.

8. EMERGENCY MANAGEMENT

Objectives

1. To be able to respond to natural and man induced emergencies in a coordinated, efficient manner.

2. To prepare a coordinated emergency management program incorporating the following features:

   a) goals and objectives;
   b) emergency liaison procedures and contacts;
   c) emergency equipment resource inventory;
   d) roles and responsiblities;
   e) local emergency plans and agreements; and
   f) financial assistance arrangements.

Component Tasks

1. Description and analysis of existing emergency measures.

2. Preparation of emergency management program to coordinate existing measures and correct deficiencies.

3. Other tasks to be identified.

Suggested Work Group Membership

Environment Canada, Ministry of Environment, Municipalities, Harbour Commissions, Transport Canada, and other support agencies or user interests as needed.